Abstract

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Title: The influence of environment and heritability on children's allergies development – pilot study

Diploma thesis

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Study program: Pharmacy

Background: Over the last few years the number of allergic individuals has been growing. The aim of this thesis was to find out whether heritability has an impact on development of allergic diseases and also to identify some environmental factors that can also take part in the development of allergies. This study is also a pilot study by which we were verifying our method of data collecting.

Methods: We chose a method of an electronic questionnaire. The questionnaire, divided into four parts, was placed on a website www.alergie-dotaznik.blogspot.cz. Informative letters were sent to chosen schools to mothers of eights graders in which they had a link to the website and filling out information. We sent out 3362 letters and received 192 filled out questionnaires. We included 164 questionnaires in the analysis of data. We analyzed the data in the program Microsoft Excel.

Results: From all children that took part in our research 32,9 % were allergic and 38,4 % were non-allergic. The rest (28,66 %) was put in the group "others". Allergic mother, father and older siblings seem to be a risk factor but not allergic younger siblings. From environmental factors repeated pharyngitis, bronchitis, influenza, pneumonia only once a year, antibiotic usage in childhood more often than four times a year, but only from the age of six are seemed to be a risk factor. Nutrition by breastfeeding and infant formula at two months of age, by adding complementary food at four months of age, and surprisingly passive smoking, which is in contradiction with all present findings, are seemed to be a protective factor. We did not prove the effect of age at which the child first tasted some chosen foods, contact with animals, usage of probiotics and paracetamol during pregnancy, breast feeding and in childhood, urinary tract infections and neither cooking on gas appliances or of the traffic near the children's home. But we found many trends toward protective and predisposing factors.

Conclusions: From our results we made a conclusion that allergy is a multifactorial illness. Heritability takes part in the development of allergic disease and so do some environmental factors. We did not prove the protective effect of infections which is in contradiction with the hygiene hypothesis. In many results we found trends in the differences, even though they were not statistically significant. To identify more environmental factors we would have to extend our research.

Key words: allergy, asthma, heritability, environment, infection, food, children